

REMARKS

Telephone interview Summary

A telephone interview was conducted on Friday, August 17, 2007 between Examiner John Bastianelli and Applicant's Attorney, Ken Smith regarding the present application and application serial number 11/247,353. With respect to the present application, the research that the Office Action indicates the Examiner has done on injection molding was discussed. No agreement was reached.

Mr. Smith requested that the research the Examiner has done with respect to injection molding at 100 degrees be made of record, so Applicant could analyze the research and respond accordingly. Examiner Bastianelli indicated that the research was a "Google Search" and did not agree to make the search of record in the application. Applicant pointed out that PEEK, PTFE, PFA and FEP cannot be injection molded at 100 degrees F, because the melting point of these plastics is higher than 100 degrees F. Examiner Bastianelli asked Mr. Smith to show that the melting point of these materials is higher than 100 degrees F in the response to the Office Action.

Claim Status

By this response, claims 38, 41, 44, 46, 63-66, 72, and 76-78 are amended, claims 43, 45, 49, 53, 54, 56, 58, and 69-71 are cancelled without prejudice or disclaimer, and new claim 79 is added. Claims 38-42, 44, 46-48, 50-52, 59-68, and 72-79 are pending.

Claim Objections

"Trunnions" has been added to claim 65 and the spelling of "trunnion" has been corrected in claim 76 as suggested by the Office Action.

Claim Rejections 35 USC § 112

Claims 49, 53, 54, and 56 are cancelled by this amendment without prejudice or disclaimer.

Claim Rejections - 35 USC § 102 and 103

- Independent Claim 38

Claim 38 is patentable over the applied references, because claim 38 recites features that are not disclosed by the applied references. For example, claim 38 recites a valve element that comprises a ball and adjacent upper and lower cylindrical trunnions extending from the ball, wherein the ball has an outer diameter D1 and at least one of the trunnions has an outer diameter D3, wherein a ratio of D3/D1 is 0.7 to 0.9.

As the Office Action points out, U.S. Patent number 3,599,932 to Scarmucci is silent as to the ratio of D3/D1. Office Action, p.5. As such, claim 38 is not obvious in view of Scarmucci alone. Claim 38 is patentable over the Scarmucci reference.

The Office Action asserts that U.S. patent number 3,199,943 to Moen discloses a ball to trunnion ratio D3/D1 ratio of about 0.8. Applicant has thoroughly reviewed the Moen reference and points out that there is no teaching of a ball to trunnion ratio D3/D1 of 0.7 to 0.9. Applicant points out that while a specific showing of some teaching, suggestion or motivation in the prior art to combine prior art elements in the claimed manner may not be required in some cases, all of the claim elements must still be shown to be in the prior art to establish prima facie obviousness. See KSR v. Teleflex, 127 S. Ct. 1727 (2007) and MPEP 2142. Claim 38 is not obvious in view of Scarmucci and Moen, because neither Scarmucci nor Moen disclose a ball to trunnion ratio D3/D1 of 0.7 to 0.9.

Claims 39 and 40 depend from claim 38 and are allowable for at least the reasons claim 38 is allowable.

Claim 41 depends from claim 38 and further recites that the packing has a generally cylindrical outer surface defined by a height H and an outer diameter D4, and that the packing has a height to diameter ratio H/D4 of 0.75 to 0.85. The claimed H/D4 ratio is not shown or

suggested by the applied references. As the Office Action points out, Scarmucci is silent as to the ratio of $H/D4$. Office Action, p.5. Applicant points out that the seat 110 of Scarmucci extends laterally between ends 112, 114, instead of having an upright orientation. See Scarmucci, col. 3, l. 73 to col.4, l. 4 and Figs. 1 and 2. That is, the height of the Scarmucci packing is the diameter of the Scarmucci packing. Scarmucci has no applicable $H/D4$ ratio and no dimensional changes to the Scarmucci packing could not result in the ratio of $H/D4$ recited by claim 41.

The Office Action Asserts that U.S. Patent Number 4,423,749 to Schmitt teaches a packing with a height to diameter ratio $H/D4$ of about 0.8. Applicant has thoroughly reviewed the Schmitt reference and points out that there is no packing height to diameter ratio of 0.75 to 0.85 disclosed by the Schmitt reference. Claim 41 is not obvious in view of Scarmucci and Schmitt, because neither Scarmucci nor Schmitt disclose a height to diameter ratio $H/D4$ of 0.75 to 0.85.

Claims 42, 44, 46-48, 50-52, and 59-62 depend from claim 38 and are allowable for at least the reasons claim 38 is allowable.

- Independent Claim 63

Amended claim 63 is patentable over the applied references, because amended claim 63 includes features that are not disclosed or suggested by the applied references. For example, claim 63 recites a lower cylindrical trunnion that extends axially past a lowermost end of the packing such that a bottom end of the lower cylindrical trunnion is spaced apart along said rotational axis from the reduced diameter counterbore to allow said valve element to shift along said rotational axis of the valve element. The Scarmucci patent discloses that the apex 104 of element 98 is in engagement with the housing 28, not spaced apart to allow movement along the axis of rotation of the valve element as recited by claim 63. See Scarmucci, col. 3, ll. 50-57, and Figure 1. Claim 63 is in condition for allowance.

- Independent claim 64

Amended claim 64 is patentable over the applied references, because amended claim 64 includes features that are not disclosed or suggested by the applied references. For example,

claim 64 recites that a lower cylindrical trunnion extends axially past a lowermost end of the packing and that a bottom end of the lower cylindrical trunnion is spaced apart from a reduced diameter counterbore to allow said valve element to shift along said rotational axis of the valve element in two opposite directions. The Scarmucci patent discloses that the apex 104 of element 98 is in engagement with the housing 28. There is no indication that the valve element can shift along the axis of rotation of the valve element in two opposite directions. Claim 64 is in condition for allowance.

- Independent claim 65

Amended claim 65 is patentable over the applied references, because amended claim 65 includes features that are not disclosed or suggested by the applied references. For example, claim 65 recites load members that apply a load to the packing in a direction of the axis of rotation of the valve element while permitting the valve element to shift along said rotational axis of the valve element to compensate for temperature effects on said packing. The members 42 of Scarmucci apply force in a direction that is perpendicular to the axis of rotation of the valve element. Amended claim 65 is in condition for allowance.

- Independent claim 66

Amended claim 66 is patentable over the applied references, because amended claim 66 includes features that are not disclosed or suggested by the applied references. For example, claim 66 recites a packing that has a cylindrical outer surface defined by a height H and an outer diameter D4, wherein a ratio of H/D4 is 0.75 to 0.85. Claim 66 is in condition for allowance.

Claims 67, 68, and 72-77 depend from claim 66 and are allowable for at least the reasons claim 66 is allowable.

- Independent claim 78

Amended claim 76 is patentable over the applied references, because amended claim 78 includes features that are not disclosed or suggested by the applied references. For example, claim recites:

H/D4 is 0.75 to 0.85;

D3/D1 is 0.7 to 0.9; and

An axial gap between the reduced diameter counterbore and the lower trunnion that allows the valve element to axially shift.

Claim 76 is in condition for allowance.

New Claim

New claim 79 is patentable over the applied references, because allowed claim 79 includes features that are not shown or suggested by the applied references. For example, claim 79 recites a packing that has a cylindrical outer surface defined by a height H and an outer diameter D4, wherein a ratio of H/D4 is 0.75 to 0.85. Claim 79 is in condition for allowance.

Should the Commissioner decide that any fee or fee deficiency is due, the Commissioner is hereby authorized to charge any and all such other fees incurred as a result of entering this amendment to deposit account number 03-0172, order number 22188/06985.

Respectfully submitted,



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Kenneth J. Smith, Reg. No. 45,115
Customer No. 24024
Telephone: 216-622-8674